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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,688	03/14/2005	Keiji Yamada	259593US90PCT	6699
22850	7590	11/01/2007		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER	
			TOYE, TAMIKO S	
		ART UNIT	PAPER NUMBER	
		1797		
		NOTIFICATION DATE	DELIVERY MODE	
		11/01/2007	ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/509,688	<b>Applicant(s)</b> YAMADA, KEIJI	
	<b>Examiner</b> Tamiko Toyé	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                                 |                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                            | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____                                                |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :1/7/2005  
1/27/2006 4/30/2007.

## **DETAILED ACTION**

### ***Claim Objections***

Claims 4-6 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. (US 5,595,581) in view of Ohno et al. (US 6,669,751).**

**Regarding claim 1**, Ichikawa discloses a honeycomb filter for purifying exhaust gases which has a structure in which:

a columnar body made of porous ceramic comprises a number of through holes, said through holes being placed in a parallel with one another in the length direction with a wall portion interposed there between (Col. 2, Lines 4-7);

predetermined through holes of said through holes are filled with plugs at one end of said columnar body, while the through holes that have not been filled with said plugs at said one end are filled with plugs at the other end of said columnar body (Col. 2, Lines 8-16); and

a part or all of said wall portion functions as a filter for collecting particulates (Col. 1, Lines 7-13)

wherein, the porosity of said plug is 90% or less and is also set to 0.15 to 4.0 times as much as the porosity of said columnar body (Col. 10, Lines 29-36).

Ichikawa does not disclose the porosity of said columnar body that is in a range from 20 to 80%.

Ohno discloses a porosity rate of 30 to 70% (Col. 6, Lines 1-7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a porosity rate in the range of 30 to 70% in the Ichikawa reference because if the porosity rate is lower than 30%, the filter can become too fine and may obstruct the circulation of the exhaust gas and if the porosity rate is greater than 70%, the amount of space in the filter can become too large, therefore decreasing the fine particle collection efficiency in the filter as suggested by Ohno.

**Regarding claim 2,** Ichikawa and Ohno disclose the limitations in claim 1.

Ichikawa also discloses the porosity of the plug that is set to 0.25 to 1.5 times as much as the porosity of the columnar body (Col. 2, Lines 31-36).

**Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. (US 5,595,581) in view of Ohno et al. (US 6,669,751) as applied to claims 1 and 2 above, and further in view of Nishimura et al. (US 6,887,826).**

**Regarding claim 3,** Ichikawa and Ohno disclose the limitations in claims 1 and 2, except for a honeycomb filter for purifying exhaust gases wherein a catalyst is supported thereon.

Nishimura discloses a honeycomb filter for purifying exhaust gases according to claim 1 or 2, wherein a catalyst is supported thereon (Col. 1, Lines 40-54).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a catalyst supported on the dividing walls of the honeycomb

structural body in the Ichikawa and Ohno references because a catalyst increases the rate of a chemical reaction and improves the capacity of the catalyst to oxidize the particulate matter as suggested by Nishimura.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamiko Toyé whose telephone number is 571-270-3238. The examiner can normally be reached on 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TT

DUANE SMITH  
PRIMARY EXAMINER

*22*  
*10-29-07*